

49. (New) The method of claim 48 wherein the outer cover layer has a hardness from about 40 to about 60 shore D.

50. (New) The method of claim 49 wherein the hardness of the outer cover layer is from about 50 to about 60 shore D.

51. (New) The method of claim 46 wherein the core outer layer has a first crosslinking agent in an amount from about 20 to about 40 parts per hundred of rubber.

52. (New) The method of claim 51 wherein the amount of first crosslinking agent in the core outer layer is from about 30 to about 38 parts per hundred of rubber.

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Cont.
53. (New) The method of claim 51 wherein the core outer layer has from about 10 to about 17 parts of balata per hundred parts of rubber.

54. (New) The method of claim 46 wherein the center has a second crosslinking agent in an amount from about 15 to about 25 parts per hundred of rubber.

55. (New) The method of claim 54 wherein the amount of second crosslinking agent in the center is from about 19 to about 25 parts per hundred of rubber.

REMARKS

Claims 1-27 have been canceled. New claims 28-55 appear in this application for the Examiner's review and consideration. Because the Examiner indicated on page 4 of the Office Action that the term "castable reactive liquid material" in the original claims described a manufacturing step rather than the final product of the ball, new claims 28-55 are drawn to a method of making a golf ball by casting the outer cover layer of the ball. Support for casting the outer cover layer can be found in the specification on page 13; lines 7-16. Additional features of canceled claims 1-27 are also incorporated in new claims 28-55. No new matter has been introduced by these changes and therefore they should be entered at this time.

The presently claimed method of making a golf ball, as set forth, for example, in independent claims 28 and 46, has a softer outer cover layer that is cast about a harder inner cover layer and a core. Examples of the casting of the outer layer are found on pages 8 and 9 of the specification.

One of the advantages of casting the outer cover layer is that it can be made very thin. One result of using a thin outer cover layer is that even with a very soft outer layer the initial velocity of the ball upon impact is not substantially decreased and driver spin remains low. However, the soft outer cover material allows for high spin and soft feel characteristics similar to that of a traditional soft covered wound ball when struck with a club with a low head speed or high loft angle. Thus, the presently claimed golf ball can provide the opportunity to enjoy the "best of both worlds" in the golf ball art by having the characteristics of a maximum distance ball during long shots and high spin and controllability during short shots.

As explained in the specification, it is desirable that the outer cover layer be thin in order to achieve these desirable progressive performance characteristics from driver to wedge. For instance, a thick outer cover layer will have the undesirable result of having a greater contribution to the in-flight characteristics of the ball when struck with a high club head speed and low loft angle, such as that of a driver. Furthermore, forming a thin outer cover layer using conventional injection molding or compression molding techniques would be substantially more difficult and/or time consuming than forming such thin outer layers by casting.

Moreover, the use of a multi-layer core in combination with a multi-layer cover as recited, for example, in claims 37-55, can allow for even greater control of the overall performance characteristics of the ball. The ability to change the material properties of the center or additional core layers of the invention, such as altering the compressibility or specific gravity of the materials for example, can permit a beneficial modification of the spin characteristics of the ball without redesign of the multi-layer cover.

Furthermore, there is nothing disclosed or suggested by Melvin, Cavallaro, Tanaka, or any combination of these references, that would teach the invention of independent claims 28 and 46. Melvin '562 does not disclose or suggest the use of casting to form the outer cover layer. In fact, Melvin explicitly teaches away from the present invention by disclosing to use conventional compression molding or injection molding to form this

layer. *See* col 20, lines 3-6. By the present invention, Applicants have avoided the manufacturing pitfalls that result from using the conventional outer cover layer materials and molding techniques taught by Melvin. The use of casting to form the outer cover layer helps avoid the difficult and time consuming measures that must be taken to form such a thin outer layer by compression molding or injection molding.

Furthermore, one of ordinary skill in the art would be discouraged from combining Melvin with Cavallaro, as the contradictory teachings of the two references are irreconcilable. Melvin teaches a golf ball having a soft outer cover over a harder inner cover, while Cavallaro explicitly contradicts the teaching of Melvin by disclosing a preference for a hard cover for the ball over a soft mantle layer. (*See* Cavallaro col. 12, lines 51-52 *and* col. 14, lines 6-18.) Thus, Cavallaro discloses the opposite of a soft outer cover layer and harder inner cover layer of Melvin and the present invention. Thus, one of ordinary skill in the art would not even have been motivated to combine Melvin with Cavallaro.

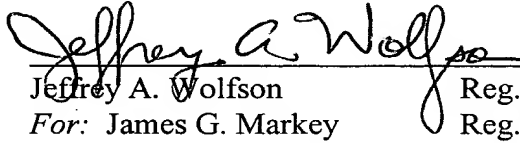
Tanaka '235 is not directed to a multilayer cover, as presently recited. Instead, Tanaka '235 is directed toward blended resins used to form what is otherwise a conventional golf ball made by conventional methods. *See, e.g.*, col. 2, lines 33-63 (summary of invention) and col. 14, lines 43-47 (claim 1). The single layer cover of Tanaka, for instance, is made by the conventional methods of either compression molding two half-shells of cover material around a core (*see* col. 8, lines 10-14) or injection molding (*see* col. 12, lines 61-65). As a result, Tanaka also fails to disclose or even suggest casting a cover or a soft outer cover layer about a hard inner cover layer, as recited in claims 28-46. Moreover, claim 43 of the present invention is directed to further defining the amount of balata in the core of the ball, while Tanaka concerns an improvement relating to the cover so that the cover feels like balata.

The Applicants believe that each of the independent claims and the dependent claims are patentable based on the totality of the claimed inventions therein, even over a combination of the cited references. Accordingly, it is believed that claims 28-55 are now in condition for allowance, early notice of which would be appreciated.

A Petition to extend the time for response until November 27, 2000 and fee calculation sheet for the newly added claims are submitted concurrently herewith, with provisions for the required fees. No other fees are believed to be due for this submission. Should any fees be required, however, please charge such fees to Pennie & Edmonds LLP Deposit Account No. 16-1150.

Respectfully submitted,

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